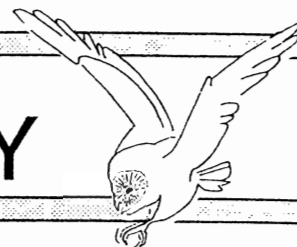


NATURALLY KENTUCKY

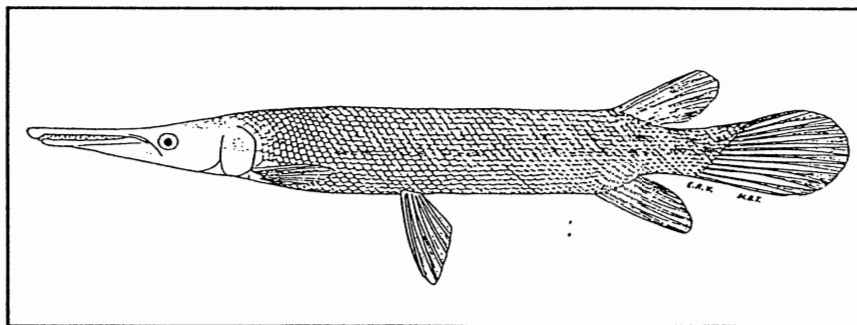


Number 9, September/October 1993

THE ALLIGATOR GAR - IT RUBBED SCALES WITH THE DINOSAURS

By Ronald R. Cicerello

Thanks to *Jurassic Park* and dinosaur mania in general, nearly everyone knows that behemoths such as *Tyrannosaurus* and *Diplodocus* roamed North America roughly 213-150 million years ago. But what fishes plied the prehistoric waters of what is now the United States? One candidate is the alligator gar, (*Atractosteus spatula*), a member of a primitive group of fishes whose fossil remains date back about 144-65 million years ago to the Cretaceous



Alligator Gar

Period when dinosaurs were still in their heyday. But unlike dinosaurs, which are long extinct, the alligator and other gars have stood the test of time and still inhabit North American waters.

Alligator and other gars live in lowland backwaters, oxbows, and large rivers, habitats that may be quite similar to those common during the age of dinosaurs. They have retained primitive traits, such as a lung-like gas bladder that assists the gills with breathing in oxygen-poor water, and interlocking diamond-shaped scales that offer armor-like protection and apparently serve them well in their modern-day haunts. Unlike other gars, alligator gar grow to the dinosaur-like proportions of 10 feet in length and 300 pounds, and are one of the largest freshwater fishes in North America. Their olive-green back, white or yellow belly, and black-spotted fins provide concealment as they stealthily stalk or lie in wait for fishes, their main food item.

The range of the alligator gar once extended along the gulf coast from Mexico east to the Florida panhandle, and up the Mississippi River and its tributaries, as far north as southern Illinois, and up the Ohio River to about Bracken County. With the exception of selected areas of the extreme southern states, these prehistoric fishes are now uncommon in the United States according to ichthyologists L.M. Page and B.M. Burr, authors of the *Peterson Field Guide to Freshwater Fishes*. The Nature Preserves Commission considers the alligator gar to be endangered in Kentucky and possibly lost from the state. There are only seven reliable reports of the fish from the state, the last from the Ohio River near Paducah in 1975.

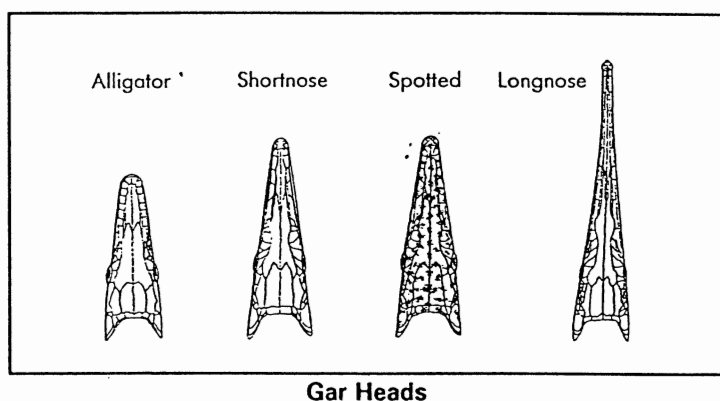
Why is the alligator gar rare in Kentucky? Organisms living at or near the edge of their range normally experience periodic fluctuations in distribution and abundance. However, the range-wide decline of the alligator gar points to more pervasive problems such as the alteration and loss of natural habitat. Prime habitats for the alligator gar, large rivers and wetlands, are among the most thoroughly altered ecosystems in North America. As these areas have been polluted, impounded, channelized, or drained, habitat essential for alligator gar reproduction has been lost. Seemingly suitable backwater and embayment habitat in artificial impoundments such as Barkley and (Continued on Page 2)

Kentucky Lakes, and along the Ohio River, apparently are not acceptable to the alligator gar. Furthermore, all gars are looked upon as nuisance or rough fish that prey upon more "desirable" game species. As a consequence, efforts to control their numbers through netting and other means have been attempted in parts of their range.

In fact, the alligator and other gars are valuable members of our river ecosystems. Their flesh is reportedly quite good and is commercially valuable in Arkansas and Louisiana. Gars also help to prevent overpopulation of prolific species of fishes in our waters. In some states, gars have been used as fertilizer. Finally, the alligator gar is a component of our natural heritage and a reminder of our distant past.

What can be done to retain this prehistoric relict as part of Kentucky's natural heritage? The first step is to learn if and where alligator gar persist in Kentucky. Those who fish in large rivers such as the Mississippi, lower Ohio, Tennessee, and Cumberland, and Barkley and Kentucky Lakes can be very helpful by reporting to the Commission any alligator gar caught or observed. The accompanying figure will help to distinguish the alligator gar from its more common, widely distributed, and smaller relatives, the longnose, shortnose, and spotted gars. Photographs that clearly show features unique to the alligator gar (e.g., short, wide snout; heavy, deep body; two rows of large teeth on upper jaw; young with narrow whitish stripe along middle of back bordered by thin, dark lines) will help to identify specimens, but a small individual kept on ice until it can be frozen is best.

The alligator gar flourished for millions of years and witnessed the extinction of the dinosaurs. Only in the last 100 years has it declined as human beings altered its world. We will not drive these magnificent animals to extinction because they are protected in aquaria, the aquatic counterpart of zoos. Ensuring that they continue to inhabit our rivers and wetlands is another matter, and will require something more than a biotechnology fix. We must restrain ourselves from further destroying riverine and wetland habitats, work to protect or recreate these areas, and be willing to share the modern world with the alligator gar, a fish that rubbed scales with the dinosaurs.



WELCOME JULIA AND STEVE!

The Commission's Stewardship Program gained two temporary employees in July. Julia Huff and Steve Morris will assist the program with management responsibilities on the Commission's thirty-one preserves over a period of five months. Julia is from Ashland, Kentucky and recently graduated from Morehead State University with a Master of Science Degree in Biology. Steve is from Bloomington, Indiana and received his Bachelor of Science Degree in Public Affairs from Indiana University.

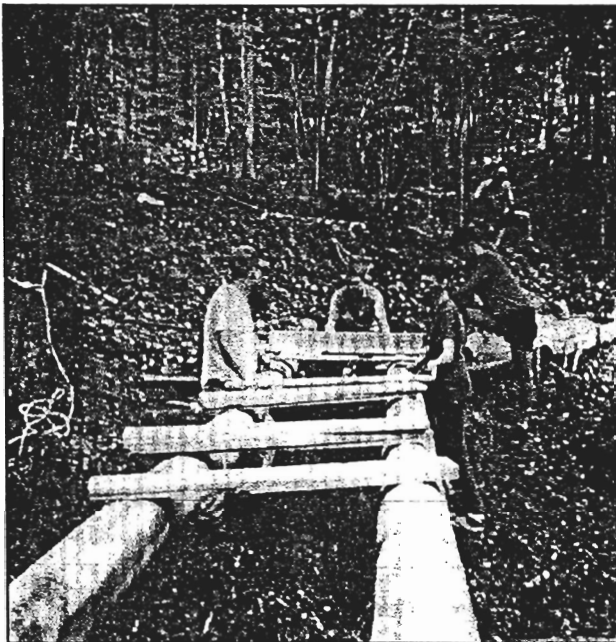
Julia and Steve are a welcome addition to the Stewardship team. They have been busy with a variety of preserve maintenance tasks ranging from exotic species control, trail construction and maintenance, and blazing, to boundary posting and brush removal.



Julia Huff and Steve Morris

For the second year, Bob and Ruth Matheny and Chris Smigell joined Stewardship staff at Blue Licks State Park Nature Preserve in Robertson County to remove stems of two weedy exotics, Melilotus alba (white sweetclover) and Daucus carota (Queen Anne's lace). We were satisfied to notice that last year's efforts attributed in part to fewer stems of sweetclover but we still have some work to do on the Queen Anne's lace population. Thanks for your help this year and we'll see you there next year.

Thanks to Eagle Scout candidate, Matthew Wade, of Cynthiana's Boy Scout Troop 60, a new bridge has been installed at Quiet Trails State Nature Preserve in Harrison County. Other troop members Bill Withers, Eric Davis, Jason Fryman, Kevin Slade, Eric Webb, Darrin Hawkins and Mark Reeves along with adult leaders James Swinford, William Withers and Richard Wade provided assistance during the construction in August. In addition to the bridge, a short section of trail and a bench was built to afford hikers a closer view of a very nice fern display. We would like to extend a special thanks to James Swinford for providing materials, William Tobin III for donating money for lumber, Danny Haney (Manager at Harrison County Rural Electric Co-op) for contributing two new power poles for use as bridge supports and Bill Wigglesworth for supplying a tractor and driver to deliver the extremely heavy poles to the work site. Take a minute to admire the workmanship that went into this newest addition to the preserve on your next visit.



Boy Scout Troop 60

Preserve Monitors

We are grateful to have Chuck Donaldson and Jerry McDonald (Pilot Knob SNP) and Larry Kelley (Axe Lake SNP) join our team of preserve monitors. In addition to these newcomers, we thank Lucia Beeler and Donovan Smith (Vernon-Douglas SNP), Ed Craft (Flat Rock Glade SNP), Ned and Sandy Kearny and Paula Quinn (R. Athey Barrens SNP), Tony Newman (Logan County Glade SNP), Joey Roberts and Stacy Williamson (Brigadoon SNP) and Michael Whitt (Jesse Stuart SNP) for their dedication to helping the Commission accomplish its goals.

Donations of Goods/Services

We are grateful to Jack Blombach of Otis Elevator in Louisville for his generous donation of used elevator cable. The cable will be used to block unauthorized vehicular access on a number of preserves.

Thanks to Glen Jones of River City Refuse in Hickman for showing his support by allowing us to dispose of an old washing machine at the landfill without charge. The machine had been illegally dumped on the roadside at Obion Creek State Nature Preserve in Hickman County.

Our continuing thanks to Leia Heady for her assistance in the Frankfort office.

Partnerships

Good working relationships and strong partnerships with other state and federal agencies help the Commission to stretch its staff power and dollars farther. The benefits of such a partnership are in evidence at Cumberland Falls State Park Nature Preserve in McCreary and Whitley Counties. A preserve inspection had revealed that vehicles were entering the preserve illegally along common boundaries shared by the U.S. Forest Service -Daniel Boone National Forest and the Kentucky Department of Parks. We want to express our appreciation to Mike Melton (Stearns District Ranger), Jerry Stephens (Somerset District Ranger) and Danny Brown (Cumberland Falls State Park Superintendent) for contributing materials and helpers for gate installations at these illegal access points. Additional thanks to Tish Neal for volunteering her time to assist with this project.

!HELP!

On November 20, Stewardship staff and volunteers will assemble to remove trash from the latest addition to Raymond Athey Barrens State Nature Preserve in Logan County. We desperately need a LARGE truck with racks or a dump truck to haul the debris to the local landfill. Please contact Cindy if you can help us or know of someone who would be willing to donate their time and truck for this worthy cause.

State Nature Preserve Spotlight

Metropolis Lake State Nature Preserve

By Kristin Snyder

Located in Kentucky's Jackson Purchase Region of approximately 13 miles west of Paducah and north of Grahamville on KY Highway 996, Metropolis Lake State Nature Preserve is one of the few remaining naturally formed floodplain lakes in the state.

The preserve consists of 123 acres of land, including 75 acres of upland bluffs and slopes and 48 acres of natural floodplain lake. The property was first purchased in 1983 by The Kentucky Chapter of The Nature Conservancy. In 1984, the Kentucky State Nature Preserves Commission purchased the property to protect the exceptional aquatic environment and beauty of the area. Metropolis Lake was the first preserve in Kentucky to be acquired using money donated by Kentucky's citizens to the Nongame Wildlife/Natural Areas Fund (the state income tax checkoff fund). The 123-acre tract was dedicated into the state nature preserve system in the fall of 1984, forming Kentucky's 12th state nature preserve. All but two acres of the lake is owned by the Commission. The western end is within the Shawnee Steam Plant property and is being voluntarily protected by the Tennessee Valley Authority through the Natural Areas Registry Program.

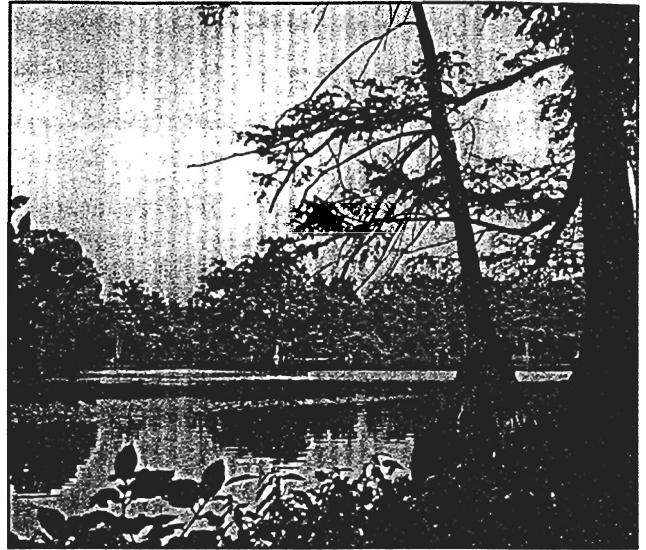
One-hundred year old bald cypress and swamp tupelo trees circle the peaceful lake, which provides critical habitat for four rare fish species. Chain pickerel (*Esox niger*), cypress minnow (*Hybognathus hayi*), spotted sunfish (*Lepomis punctatus*), and taillight shiner (*Notropis maculatus*). Great blue herons (*Ardea herodias*), belted kingfishers (*Ceryle alcyon*) and numerous species of duck are often seen gliding above the surface of the

lake in search of a resting place or their next meal. Turtles can be seen basking in the sun on fallen logs. Occasionally fish disturb the tranquility of the lake by leaping out of the water.

The floodplain and slopes around the lake are mainly covered in second-growth deciduous woods which host an abundance of birds and mammals throughout the year and an array of colorful wildflowers in the spring.

The preserve was used extensively in the twentieth century prior to dedication. From 1922 to 1951 the land was developed into a private recreation area by a local family. The area was outfitted with seven fishing cabins, a large concession stand, picnic tables, barbecue spots and a lighted ball park! During the area's heyday, it was the scene of campaigning by former Governor A.B. Chandler and former Vice President Alben Barkley. At the time, boats could be rented and bait could be bought at the park, and the lake reportedly had the best crappie fishing in the state.

The property was allowed to grow back after 1951 when the fishing cabins were either torn down, burned down, or moved. At about this same time, 11 buildings were constructed on the blufftop on the west side of the preserve and were used as housing for construction workers who were building the Shawnee Steam Plant. These buildings were also torn down



Metropolis Lake State Nature Preserve

or eventually fell down, and the highly disturbed area was left to recover naturally.

Due to the long history of use by anglers, fishing with rod and reel is an authorized activity at this preserve. In 1988, a new policy of opening the lake to fishing and other public use only from February 15 to October 15 began. For those who would like to spend the day on the lake, electric motored boats or canoes are permitted. Gasoline motors are not allowed since they pollute the water with gas and oil.

A 0.75 mile loop trail winds from the preserve parking lot onto the upland slopes and back along the lake's edge to the parking lot. Visitors wanting to learn about the preserve may take a self-guided hike along the trail. Twelve newly-installed interpretive signs will assist the visitor in learning about different plants and animals found in the preserve. Funds to buy the signs were donated by Martin-Marietta, and the frames were designed and built by volunteer, David Leibundguth.

In the last three years, the
(Continued on Page 6)



Landon McKinney - Blackacre Nature Hike

KAEE Conference at Blackacre By Laurel McNeil

The Kentucky Association for Environmental Education (KAEE) held its 16th Annual Conference the first weekend in October at Blackacre State Nature Preserve. This non-profit organization promotes environmental education. The majority of membership consists of teachers throughout the state. Blackacre, a unique preserve, located in eastern Jefferson County, is a 170 acre, 205 year-old working farm. It lies in the Tyler Settlement Rural Historic District, and is the center for many environmental education activities for students. Although not a significant natural area, it serves an important educational role in a cooperative effort between KSNPC and the Jefferson County Public School System.

The Conference featured 31 workshops including an informative slide show tour of the Commission's state nature preserve system given by our Stewardship Coordinator, Joyce Bender. Joyce provided background information about the Commission and discussed the agency's goals. She

highlighted the nature preserves that can accommodate school groups, touching on significant biological, historical, and geological features at each one. She encouraged the teachers to explore the preserves in their own counties and apply the same techniques they've learned from Blackacre's teacher workshops.

Participants braved cold, wet conditions for Landon McKinney's Nature Preserve Investigation Hike around the preserve. Landon is the Commission's Land Protection Specialist. He wanted the group to leave with something more than just a walk to identify a few plants. He stressed interconnected ecological roles, pointed out the abundance of certain plant species as evidence of human activities at Blackacre, and discussed characteristics of our remaining old-growth forests and other natural community types. The group was saddened to hear that approximately less than one-half of one percent of the land in Kentucky still exists as it did when Daniel Boone explored the state.

The conference was co-sponsored by Jefferson County Public Schools -

Gheens Academy, Kentucky Conservation Districts, KSNPC, and the University of Louisville Institute for the Environment and Sustainable Development. Blackacre is open to the public by appointment. For more information, contact David Wicks at Project ID, Durrett Education Center, 4409 Preston Highway, Louisville, KY 40213.

What Is The Kentucky State Nature Preserves Fund? By Linda Pollock

The Kentucky State Nature Preserves Commission (KSNPC) was established as a state agency in 1976 with a mandate to identify and preserve remnants of Kentucky's natural heritage. The Kentucky State Nature Preserves Fund was established to provide funds for acquisition and stewardship of significant natural areas. Donations to the fund provide money for nature preserves and endangered species programs of KSNPC. This fund differs from the Nature and Wildlife Income Tax Checkoff Fund in that it is not divided between KSNPC and the Kentucky Department of Fish and Wildlife Resources Nongame Program. Detailed reports on the use of previous contributions and plans for use of future contributions are available.

Less than one-half of 1 percent of Kentucky's land and water remains undeveloped or unmodified by mankind. The places where endangered species live are being reduced year by year. KSNPC has identified many projects and species that urgently need attention if they are to be saved. Wetlands, natural areas and endangered species habitat have been acquired, and much more land has been protected through less expensive (Continued on Page 6)

(Nature Preserve Fund Continued)
means. A donation to this fund will mean an increase in the efforts to protect and manage Kentucky's natural heritage.

Kentucky conservation organizations are monitoring KSNPC activities, and many citizens have provided their opinions regarding the tasks to be implemented. KSNPC programs have helped preserve 30 natural areas encompassing almost 9,000 acres. These nature preserves help protect 246 animal and 338 plant species which are monitored by KSNPC. In addition to protecting plants and animals, nature preserves are used for environmental education, passive recreation, and scientific research. As with other charitable contributions, a donation to this fund is deductible for federal income tax purposes.

The Natural Resources and Environmental Protection Cabinet does not discriminate on the basis of race, color, national origin, sex, age, religion, or disability and provides, on request, reasonable accommodations including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs, and activities.

METROPOLIS LAKE CONTINUED
Commission Stewardship staff has worked with the sixth grade teachers and students from Heath Elementary School to clean up trash left on the preserve and to clear a trail and install markers along the trail. Looking into the future, the Commission intends to capitalize on the preserve's excellent potential for environmental education program development. With adequate funding and the continued assistance of the local school systems, the Commission could fulfill its mandate for educational opportunities and further the goals of the Kentucky Educational Reform Act.

Blankenbaker Parkway Public Hearing
By Linda Pollock

The Kentucky State Nature Preserves Commission conducted a public hearing on September 17, 1993 in the Curris Center, Murray State University located in Murray, Kentucky in Calloway County. The purpose of the hearing was to determine whether an imperative and unavoidable public necessity exists for the taking of a portion of Blackacre State Nature Preserve by the Kentucky Department of Transportation (DOT) for use in constructing a section of Blankenbaker Parkway. Testimony was taken at that time in regard to the request by DOT that a portion of the preserve be used for the parkway. The Commission has 60 days to render a decision.

The Kentucky State Nature Preserves Commission is mandated to identify and preserve remnants of Kentucky's natural heritage in a statewide system of nature preserves.

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